



ABSTRACT OF THE DISCLOSURE

In a track lighting system for a 277 Volt power line, proper voltage for powering 120 Volt incandescent lamps is obtained by way of an integral electronic transformer-less voltage conditioner. Thus, ordinary 120 Volt incandescent lamps can be used directly in the power tracks of this track lighting system.

The voltage conditioner includes a full-bridge rectifier providing an unfiltered DC supply voltage consisting of sinusoidally-shaped unidirectional voltage pulses having an RMS magnitude of 277 Volt. This DC supply voltage is provided to a half-bridge inverter; which, as long as it is in operation, provides a high-frequency output voltage of RMS magnitude equal to half of the RMS magnitude of the DC supply voltage. However, by arranging for the inverter to operate only during part of each of the DC voltage pulses provided from the full-bridge rectifier, the RMS magnitude of the inverter's output voltage can readily be arranged to have an RMS magnitude somewhat lower than half of 277 Volt -- such as 120 Volt.

Since the major part of the voltage-magnitude-reduction is accomplished by way of the half-bridge inverter action itself -- which action naturally provides for a halving of the voltage magnitude -- the resulting power factor of the power drawn by the track lighting system from the 277 Volt power line is excellent.